

**DESIGN OF A NEIGHBORHOOD CENTRE FOR DIFFERENTLY
ABLED PEOPLE**

By

Jyoti Ferdous

05308003

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ABSTRACT

There are no fully equipped disabled centers in Bangladesh. There are certain specialized rehabilitation centers such as BRCT (Bangladesh Rehabilitation Centre for Trauma Victims), CRP (Centre for the Rehabilitation of the Paralyzed) Bangladesh and BPKS (Bangladesh Protibandhi Kallyan Somity) etc. but none that serve a whole range of disabilities. Rehabilitation centers that serve the visually and hearing impaired as well as people unable to speak have yet to be established in Bangladesh. Their absence in the country has meant that a portion of the society has remained unattended and ignored. Despite medical science having invented innumerable treatment methods, including therapeutic methods, recovery through nature, and recovery through human interaction this portion of our society have yet to receive any proper medical attention and social consideration. I think, as an architect, I have a responsibility and the capability to address these problems through designing a niche which will provide extensive facilities to the disabled.

In Bangladesh about 1.8 crore people (United Nations ESCAP Survey Feb 2011) with different sorts of disabilities live around us while we do nothing and keep silent as if to deny their existence in the society. Anyone who feels compassionate about them, perhaps, may send them to a distant rehabilitation centre, far from their family. An unknown environment makes them feel deserted from society and family further segregating them from the society.

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So there should be no doubt about the necessity of this project (a neighborhood centre for the disabled) as it benefits that part of the society which has been neglected for so long.

INTRODUCTION

In Bangladesh about 1.8 crore people (United Nations ESCAP Survey Feb 2010) with disability live around us. However we are fully able keep mum as if they have no existence in the society. In a lot of cases people with disabilities are sent away by their families or friends to rehabilitation centers far from their homes and family. Coupled with an unknown environment and ill-equipped centers, these people are further alienated from society. The message sent is that these differently-abled people are different from the normal and therefore cannot function as part of the society.

Hence the need for a project of this sort (a neighborhood centre for the disabled) in the neighborhood cannot be underestimated. Besides its obvious aim to provide the proper medical and social care for the differently able, the project will also benefit the neglected by helping them to integrate with the society.

This particular project will have the initiative to address this problem and make an attempt to design a community centre for the differently abled people to help them feel part of the society in their own neighborhood.

CHAPTER 01: BACKGROUND OF THE PROJECT

- 1.1. Significance of The Project**
- 1.2. Project Specifications**
- 1.3. Reasons for Doing the Project**
- 1.4. Reasons for Choosing the Program**
 - 1.4.1. Key Functions*
 - 1.4.2. Programme In Brief*

1.1. Significance of The Project

In Bangladesh about 1.8 crore people (United Nations ESCAP Survey Feb 2010) with different sorts of disability live around us and we do nothing and keep silent as if they have no existence in the society . Anyone who feels compassionate about them, perhaps, may send them in a distant rehabilitation center far from their family. Unknown environment makes them feel deserted from society and family segregating them from the society.

So there should be no doubt about the necessity of this project (a neighborhood center for the disabled) as it benefits the part of the society that has been neglected for so long.

1.2. Project Specifications:

Name of the Project: Design of a neighborhood centre for differently abled people

Address of the site: Kellar moor bazar, Shahid nagar, Lalbag thana, Dhaka.

Total Site area: 5.17 acres

Client: Jatiya Protibondhi Unnayan Foundation, under the ministry of social welfare.

Funding Body: Government of Bangladesh .

1.3. Reasons for doing the Project

There is no proper disabled centre in Bangladesh it is still absent in our country especially in Dhaka. Medical science has invented innumerable treatment methods, including therapeutic methods, recovery through nature, recovery through human interaction. I think, as an architect, I have a responsibility and the capability to address these problems through designing a niche which will provide extensive facilities to the disabled.

1.3. Reasons for Choosing The Program

The program for the project is based on the functional requirements of a complete physical and mental growth facilities and was established from the proposal of the authority. The program includes all facilities required for a complete disabled centre.

1.3.1. Key Functions

- Foundation and administration building
- Educational facilities and resource center
- Work shop
- Exhibition space
- Vocational training
- Class rooms for extra curricular activities

Therapy units:

- physiotherapy
- occupational therapy
- hydrotherapy
- speech and hearing therapy
- extensive horticulture therapy
- mental health therapy units

Other facilities:

- Library and resource
- Multipurpose hall
- Cafeteria
- Dormitory
- Teachers' and doctors' rooms
- Guest rooms

CHAPTER 02: SITE APPRAISAL

2.1. Location of site

2.2. Environmental consideration

2.2.1 Site and surroundings

2.2.2 Topography

2.2.3 Photographs of the site

2.3. Historical and social background

2.4. Swot analysis

2.1. Location of site

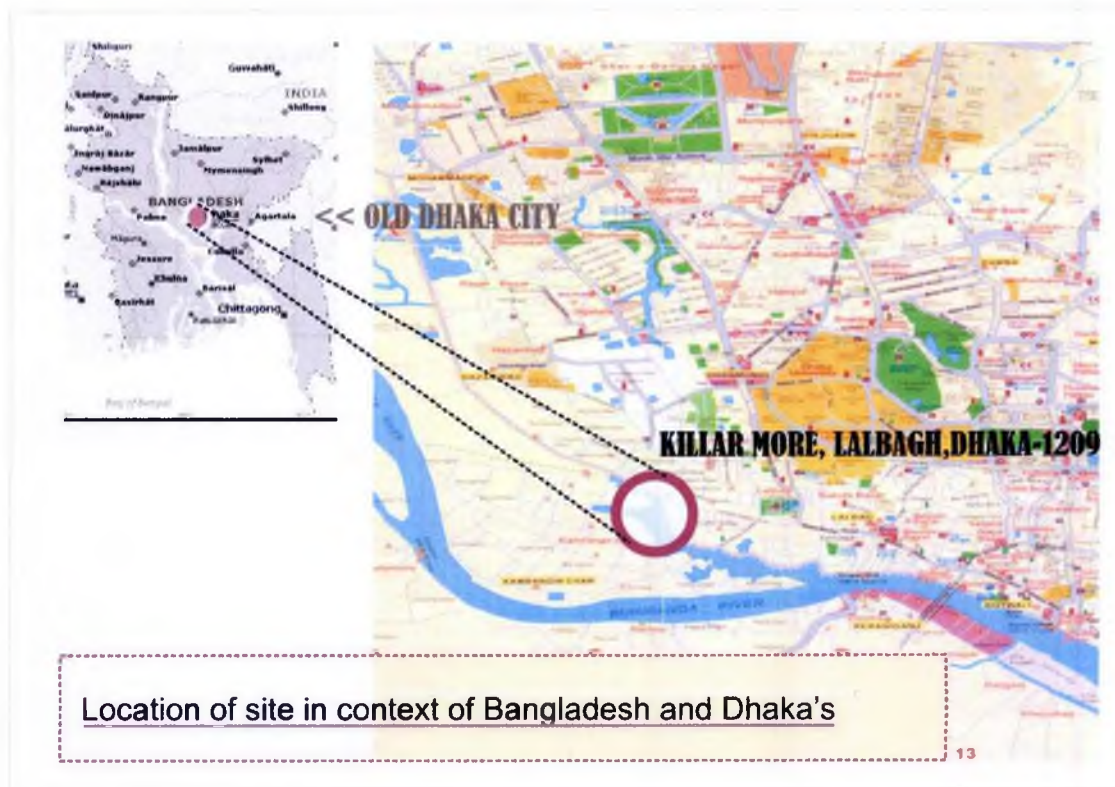


Figure 01_Location map of Lalbagh, Dhaka

Source _Ferdous 2010

It is one of the most crowded area of Dhaka city with very dense urban settlement. Lalbagh Kella is one of the most significant area of Bangladesh. One of the most advantageous feature of this locality is that it is known by a lot of people therefore it will attract the attention easily.

2.2. Environmental consideration

2.2.1 Site and surroundings

On one side of the site is Beri baad on the eastern side is the cremation ground and on the other sides are some residential low height buildings



Figure 02 – Surrounding analysis

Source _Ferdous 2010

The site is very easily accessible by many routes. Especially the new road along Beri baad. The longest side of the site is exposed to southern and south eastern wind. Because the low height structure in the periphery of the site allows full exposure to sun light.

2.1.2 Topography

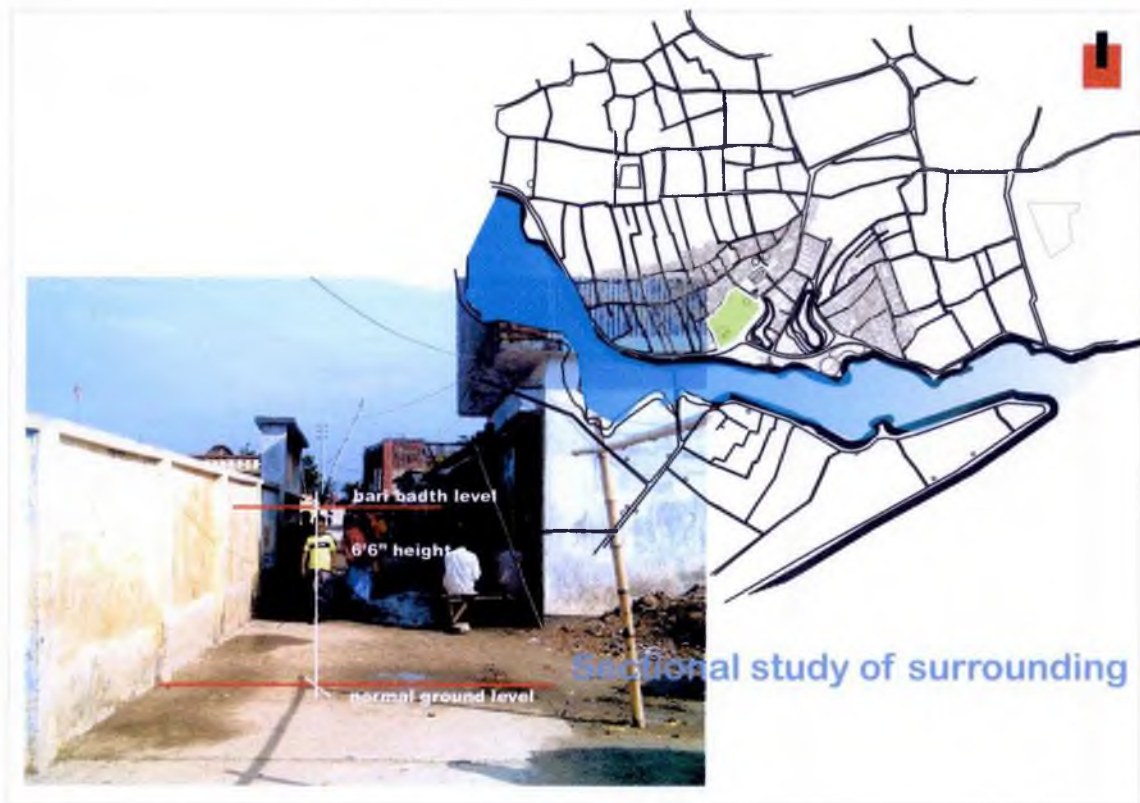


Figure 03 – Sectional study

Source _Ferdous 2010

Beri baad is 6 feet 6 inches above the level of Dhaka city which makes the boundary of the site lower than the level of the adjacent road.

2.1.3 Photographs of the site



Figure 04 – panoramic view

Source _Ferdous 2010

The area is very lively as the population is heavily dense. And along the south western side are two more water bodies.

2.3. Historical and social background



Figure 05 – sketch of Lalbagh Kell

Source _ Ferdous 2010

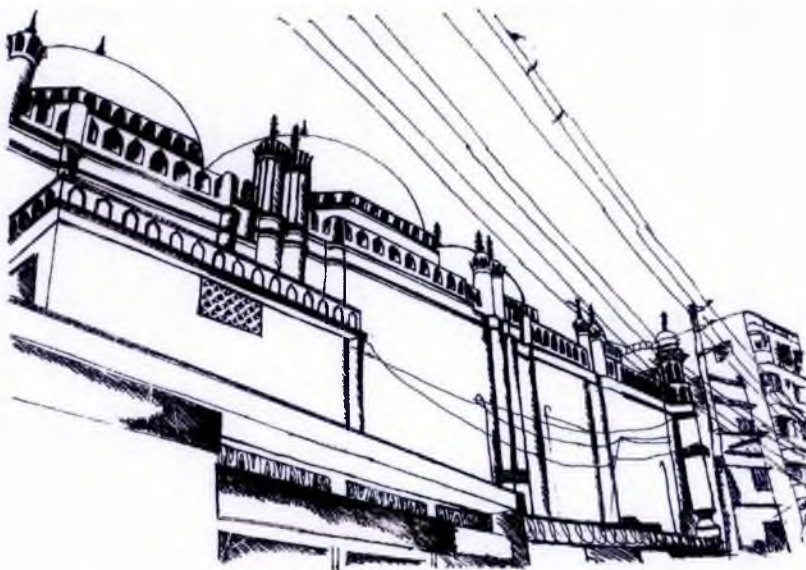


Figure 06 – sketch of begum bazaar mosque

Source _ Ferdous 2010

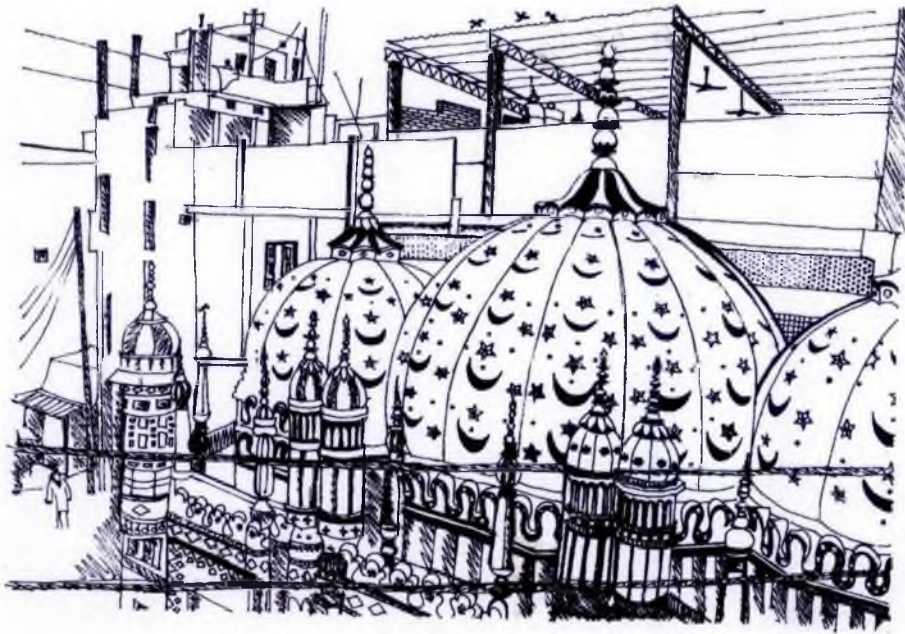


Figure 07 – sketch of Tara mosque

Source _ Ferdous 2010

Old Dhaka is a 400 years old city with lots of historical evidence and cultural significance. There are lots and lots of mosques in old Dhaka. While designing in this area certain aspects must be prioritize such as culture tradition heritage etc. Most people are very traditional and rooted in this area.

2.4. Swot analysis

2.4.1. Strength

- restaurants with in walking distances .
- banking facilities.
- bus drop off /transportation node – at the corner of the site.
- site suitability - in case of location, communication, transportation linkage.
- community facilities, educational facilities, market and commercial facilities as well as recreational facilities are available around the site.

2.4.2 Weakness

- construction problems : unsettle land can increase piling cost.
- Ground level needs to increased to achieve road level.

2.4.3 Opportunities

- *It is near a very famous architectural building_Lalbagh kella.*
- *The longest side of the site is exposed to the south.*
- *Legibility persists widely.*

2.4.4 Threat

- *As the site is beside beri baad if anything happens to the dam the site will be heavily affected.*
- *Security issues.*
- *Densely populated.*

CHAPTER 03: Literature Review

- 3.1. Introduction of literature review**
- 3.2. Theoretical background**

3.1. Introduction of literature review

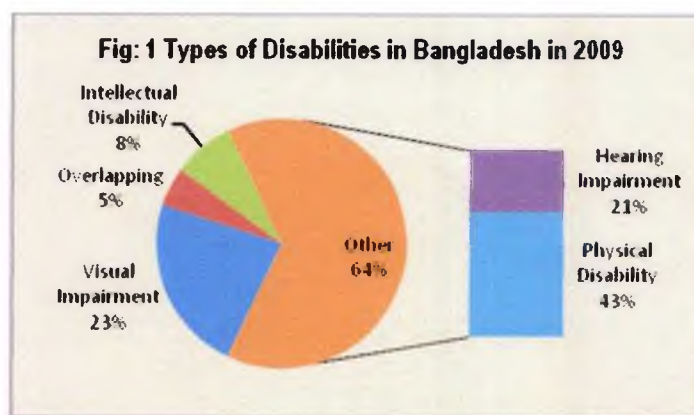
The proposed project of this report is for the establishment of a rehabilitation centre for the treatment of the differently-abled. Unlike other specialized rehabilitation centers existing across the country, the proposed project will look to treat people with the following disabilities: i) hearing disability ii) visual disability and iii) physical disability. The rehabilitation centre will include the following therapeutic units:

1. Physiotherapy
2. Occupational Therapy
3. Hydrotherapy
4. Speech and hearing therapy
5. Mental health therapy
6. Horticulture therapy

This section of the report will review the different reports considered while composing the project and for also assessing the need for the existence of this type of project.

3.2. Theoretical background

The pie-chart below is derived from the Japan International Cooperation Agency (JICA) March 2010 report inscribing the different disabilities in the country.



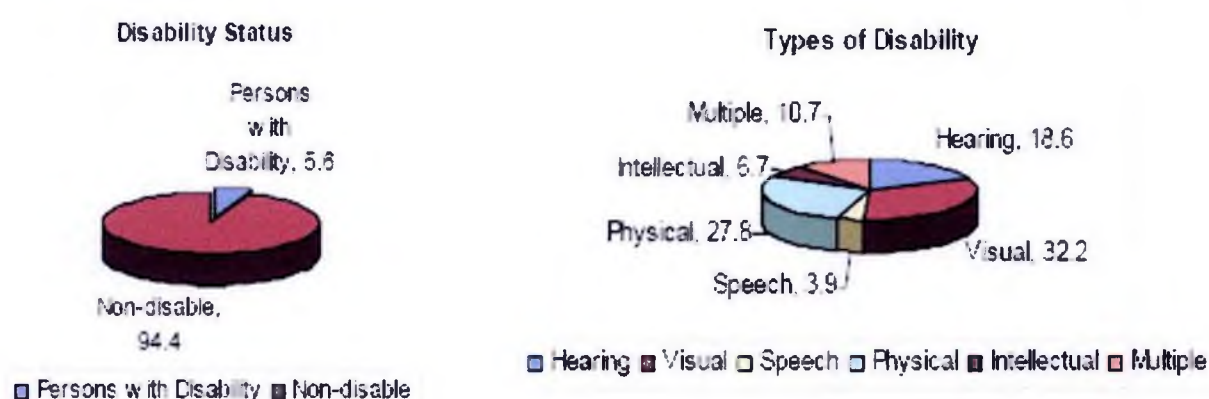
Source: Impact Foundation Bangladesh (IFB), Center for Services and Information on Disability (CSID),

2010

It is interesting to note that the major 2 disabilities that make up a majority of the disabilities (other 64% in the pie-chart) are the visual impairment 23% and physical disability 43%. Hearing Impairment 21% is the next largest portion of the types of disabilities.

The following is derived from the report by Unnayan Onneshan "***Disability in Bangladesh Prevalence, Knowledge, and Practices***" in February 2008. The pie-chart on the left hand-side shows that 5.6% of the total population in Bangladesh in 2008 was had some sort of disability and the pie-chart on the right hand side shows that visual (32.2% portion of disabled), physical (27.8%) and hearing (18.6%) disabilities are the major form of disabilities existing in Bangladesh.

Figure 4.1: Percentage distribution of population by disability status and Types



The above reports highlight that amongst the forms of disabilities existing in Bangladesh, the 3 most prevalent forms include Visual Impairment, Physical Impairment and Hearing Impairment

According to United Nations ESCAP 2010 report **Disability at a Glance 2010 a Profile of 36 countries and Areas in Asia and the Pacific**, 5.6% of the total population, in 2008, of Bangladesh had disabilities of different sorts. Approximately 88,30,000 (Eighty Eight Lac Thirty Thousand) people in 2008 were disabled. Despite the large number, the report outlines that education was not accessible to the majority of these people. The report also outlines that the *Disability Welfare Act (2001)* and the *Five Year National Action Plan on Disability (2006)* as some of the policies being enforced by the government of Bangladesh to help integrate disabled/differently-abled with the society.

The table below outlines other national efforts for the differently-abled, mentioned in the report:

National efforts to promote an inclusive society	
Employment quota scheme	10 per cent quota for orphans and persons with disabilities in all jobs; 1 per cent quota for disabled persons in all cadre service jobs of the State (ESCAP 2004c, Q 30(ii))
National accessibility standards	The Bangladesh National Building Code (1993) (ESCAP 2006, Q 13.1)
Standardized sign language	Sign-supported Bangla was developed by the Centre for Disability in Development, an NGO, in 2003. It is being developed and upgraded each year. Bangla Braille was reformed and revised in 1993 by the Ministry of Social Welfare (ESCAP 2006, Q 19.1)
ICT accessibility guidelines	No (ESCAP 2006, Q 18.1)

Sources such as ***"The Advocacy Project- supporting advocates for peace***

(www.advocacy.net.org) reports that in Bangladesh there are only five (5) schools that administer adequate Braille education.

According to the national census 2001 prevalence of disability in Bangladesh is less than 1% which is not acceptable even by government standards. In 2005 National Forum of Organizations working with the Disabled (NFOWD) and Handicap International in collaboration with DFID conducted a sample survey which shows prevalence's of disability is about 5.6%. Different NGOs working at the grass root indicates the figure between 6 and 8% which seems to be closer to the WHO statistics. Government of Bangladesh has recognized the rights of people with disabilities through *"National Policy for the People with Disabilities 1995"* and *"Disability Welfare Act 2001"*. In September 2006 National Coordination Committee for the People with Disabilities under the Disability Welfare Act 2001 had also approved the National Action Plan for

the People with Disabilities 2006. Besides that a national foundation named "National Foundation for Development of People with Disabilities" had been established in 2002 to ensure financial support to the organizations working at the grassroots level for the people with disabilities.

About 300 NGOs are working with the people with Disabilities in Bangladesh. DPOs are also coming up in large scale. Community Based Rehabilitation (CBR) services are very effective in Bangladesh run by the NGOs. Still, total geographical coverage is only 20% i.e. 80% people with disabilities are out of any disability services. The most neglected sector is the education where a lot of input is required immediately. Women and Children with disabilities are the most excluded group in Bangladesh.

These studies provide the backdrop for the need to establish an institute or center which will enable medical treatment of the disabled and contain social programs and modern approaches to help infuse the reforms required to enable the integration of this formerly ignored group of people into the modern day society.

CHAPTER 04: Case study

4.1. Introduction of case studies

4.2. Centre for Rehabilitation of the Paralyzed (CRP) Savar

4.1.1 Findings

4.1.2 Services provided by CRP-Savar

4.1.3 Disadvantages

4.1.4 Analysis

4.3. Bangladesh Prodibandi Kallyan Somity (BPKS)

4.3.1 Analysis

4.4 Design of accessible gardens for the physically challenged in

Bangladesh

4.4.1 Findings

4.4.2 Recommendation

4.1. Introduction of case studies

The proposed project is unique in nature because it includes the treatment and various approaches to help the differently-abled live as part of the society. Although there are no similar projects existing in the country, but two local (2) projects currently serving people with disabilities have been considered to analyse the shortcomings of the existing framework for treating the differently-abled/disabled people.

The two local projects under consideration are:

1. Centre for Rehabilitation of the Paralyzed (CRP) Savar
2. Bangladesh Prodibandi Kallyan Somity (BPKS)

4.2. Centre for Rehabilitation of the Paralyzed (CRP) Savar

As the name suggests this institute is primarily for the treatment and care for people who are paralyzed. Founded in 1979 in response to the desperate need for services for spinal injured patients, the Centre for the Rehabilitation of the Paralyzed (CRP) has developed into an internationally respected organisation. CRP focuses on a holistic approach to rehabilitation, recognising that all aspects of the rehabilitation processes are vital. They include:

- a) Physical rehabilitation through medical and therapeutic interventions and the provision of appropriate mobility aids.
- b) Psychological rehabilitation through counseling and sharing of experiences.

- c) Economic rehabilitation through vocational re-training and assistance in securing micro-credit loans.
- d) Planned discharge for a successful reintegration into the community, ensuring that the home environment is as safe and accessible as possible and that local residents are educated about disability, its causes and consequences.

The holistic nature of CRP's work is reflected in the fact that its work covers several areas of development including human rights, poverty alleviation, health care provision and education.

CRP's headquarters is in Savar with an additional three functioning sub-centres throughout Bangladesh. CRP-Gonokbari is a residential vocational re-training centre for disabled women and girls. CRP-Gobindapur is a centre for out-patient and community based services in Sylhet Division.

CRP-Mirpur is a thirteen-storied centre in Dhaka which provides medical, therapy and diagnostic services in addition to having several floors available for rent. In addition to its work providing rehabilitation services for disabled people, CRP's academic institute, the Bangladesh Health Professions Institute (BHPI), has pioneered the training of relevant health professionals in Bangladesh. The visit to CRP Savar was intended for analyzing the current conditions of treatment and the deficiencies of the current system.

4.1.1 Findings

From the outset CPR Savar looks very well laid out. Below the photo shows the directions given for the different sections of the institute at its entrance. Both Bengali and English have been used and the writings are clear and readable.



The different sections of the institute shows that CRP does not intend to deceive itself from its own motto *"A holistic approach for the treatment of the paralyzed"*.



The two pictures show the spacious hall ways and the adjacent ramps which help in the movement of the paralyzed. This is a pre-requisite for the movement of the paralyzed, as they cannot be moved without wheel chairs.

4.1.2 Services provided by CRP-Savar include:

- 100-bed hospital for spinal injuries.
- Operating theatre for spinal and orthopaedic surgery.
- Physiotherapy Department for in-patients and out-patients.
- Occupational Therapy Department for in-patients and out-patients.
- Halfway hostel where patients prepare for returning to their home community.
- Social Welfare Unit assisting with a variety of issues for CRP's users.
- Metal workshop which produces wheeled mobility aids and other appliances.
- Wood workshop which produces furniture to order and a range of toys.
- Special seating workshop for individually crafted seating units for disabled children.
- Orthotics and Prosthetics workshop which produces assistive devices for disabled people.
- Paediatric Unit with residential and out-patient care for disabled children.
- William and Marie Taylor School which provides inclusive education in an enabling environment.
- Bangladesh Health Professions Institute (BHPI) which trains the health professionals of tomorrow.

The administration area ensures the smooth and transparent operation CRP Savar. Despite all its positives, CRP Savar has certain inadequacies which need to be addressed in order for it to stay true to its motto of serving the disabled.

4.1.3 Disadvantages

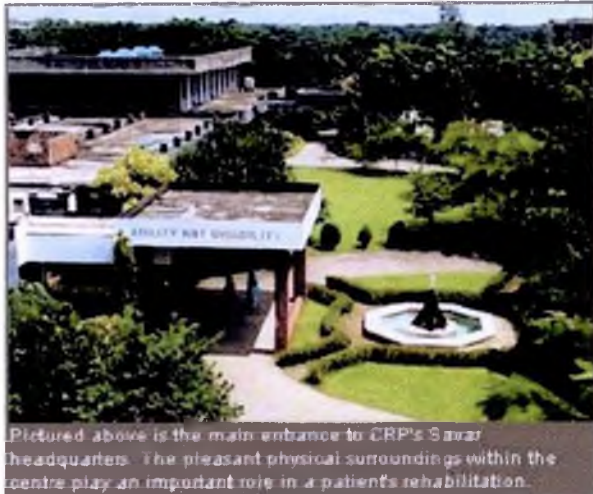


The toilet area shown in this photo is a primary example. Considering that CRP serves the paralyzed, having such a low toilet does not serve the purpose of the paralyzed. CRP should ensure that toilets of a certain heights have to be maintained in order for paralyzed people to make proper use of them.



Both the bathroom areas shown in the photographs display the inadequate space provided by CRP for its patients. The picture on the left shows the tight space for maneuvering wheel chairs in bathrooms. The right shows the appalling conditions of some of the bathrooms in CRP Savar.

The image below, on the left, is used by CRP for advertising its facility in Savar.



Pictured above is the main entrance to CRP's Savar headquarters. The pleasant physical surroundings within the centre play an important role in a patient's rehabilitation.



Despite its large land space of 13 acres, CRP has not utilized its space efficiently. The open spaces are mostly groomed into gardens for the pleasure of patients residing in the complex. However poor ergonomics means a lot of the garden areas are inaccessible to the patients. The movement of the paralyzed primarily depends on the maneuverability of wheel chairs. Without proper ramps or slopes wheel chair movement becomes limited. The photo of the garden in the following page shows the limitation of movement of wheelchairs due to inadequate slopes.

In addition to movement capacity, the surroundings must have certain safeguards in order to provide safety of the paralyzed. The photo of the garden, in the following page, also shows the low railings that have been placed which may prove to be hazardous.



The photo on the right shows the basin placement, another example of poor ergonomics. Basins have to be placed at a reasonable height in order for the paralyzed to have access.



Narrow corridors are a hindrance in the movement of wheelchairs. The photo on the left is taken inside the CRP Savar center which houses patients. The photo below shows the inadequate exercising facilities being provided by CRP for its patients. The exercising unit is in need of a lot more equipments to properly fulfill its purpose.



4.1.4 Analysis

These are some of the inadequacies in CRP Savar. However despite the deficiencies in the facilities the positive thing about CRP Savar is that it contains everything listed amongst its services. Most of the services are in need of improvements but CRP Savar contains the most comprehensive form of treatment and social programmes for paralyzed people in Bangladesh.

4.3. Bangladesh Prodibandi Kallyan Somity (BPKS)

Findings: Below shows the photos which reveal the condition of BPKS and its services.



4.3.1 Analysis

The visit to BPKS- a center primarily for the disabled in Bangladesh- had facilities for the disabled but all the facilities have deficiencies. The photos show most of the units contained in BPKS and the few positives- such as good use of ergonomics in certain spaces- but also reveal the many shortages of the organization. The center is inconsistent with its use of ergonomics and also lack the proper space required for the movement of the disabled. The bottom rails of sliding doors are hindrances and may sometimes cause prohibitions for the movement of the disabled. A lot of its services lack the proper facilities for the treatment or mental growth required to help the disabled.

4.4 Design of accessible gardens for the physically challenged in Bangladesh

4.4.1 Findings

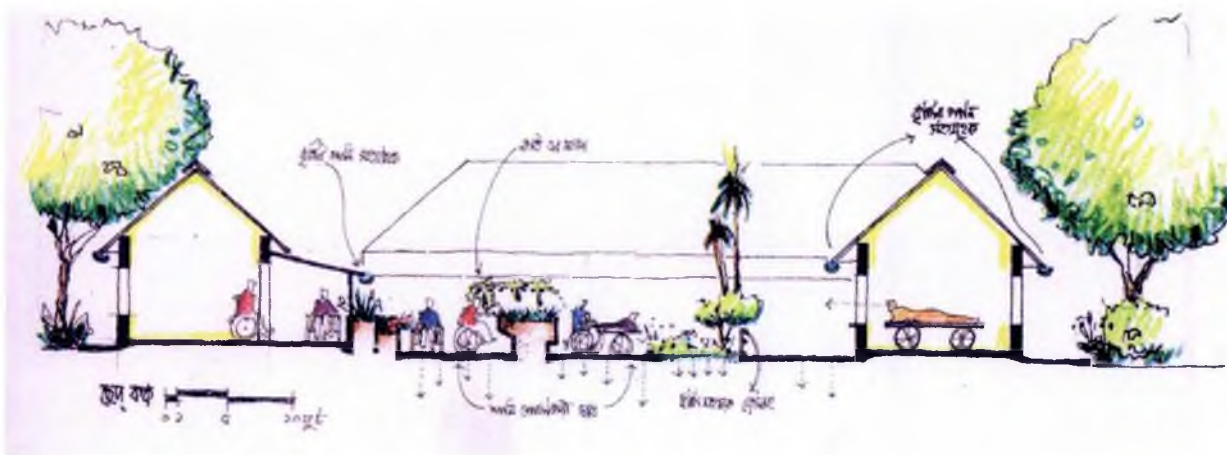
A lecturer of BRAC University, Department of Architecture, and five students conducted a study at CRP Savar, to improve accessibility for the disabled or physically challenged.

The study was concerning improving gardening and horticultural activities for the disabled. The study was carried out through a participatory process with user groups.

The following are the design options that the study revealed for improving gardening activities:



The following are the proposed plan and section of specific area using the design options (shown above) developed.



4.4.2 Recommendation

The analysis of the rehabilitation centers reveal that the services provided by these centers lack the proper facilities required for the treatment and mental growth of the disabled or the specific patients that these centers serve. Most services need improvements and proper monitoring to ascertain that standards required, for the proper the treatment and attention of the disabled, are maintained.

Horticulture Therapy is a modern approach to the treatment and mental growth for the disabled. Some rehabilitation centers in Bangladesh, such as CRP Savar, contain this specific service for the treatment of its patients. However none are designed to enable

the differently abled to have the appropriate accessibility in order to truly benefit from this specific form of therapy.

Therefore the case study on the “Design of accessible gardens for the physically challenged in Bangladesh” has been included in this section of the report. The case study is more of a recommendation for rehabilitation centers around the country. The case study is a least expensive way that a therapeutic service may be added to rehabilitation centers across the country for effective treatments of the disabled.

CHAPTER 05: Program and development sq/ft

5.1. Rationale of the programme

5.2. Program

5.2.1. Foundation and administration building

5.2.2. Educational facility and resource

5.3 Work shop, vocational training and display centre

5.3.1. Sheltered work shop

5.3.2. Outdoor work

5.3.3. Exhibition and sales area

5.4 Therapy units

5.4.1. Physiotherapy

5.4.2. Occupational therapy

5.4.3. Hydrotherapy

5.4.4. Speech and hearing therapy

5.4.5. Mental health therapy

5.4.6. Horticulture therapy

5.5 Library and resources

5.6 Multipurpose hall

5.7 Cafeteria

5.8 Rest house and quarter

5.9 Dormitory

5.10 Parking facility

5.1. Rationale of the programme :

The program for the project is based on the functional requirements of a complete physical and mental growth facility and was established from the proposal of the authority. The program includes all facilities required for a complete disabled centre. The square feet calculation is based on the space requirement for the convenience of differently abled people.

5.2. Program :

5.2.1 Foundation and administration building :

1. Lobby-lounge	1000 sft
2. Reception	400 sft
3. Toilets (male 4 and female 2)	200 sft
4. Hand wash	100 sft
5. Director's room with toilet	500 sft
6. Disability information and rehabilitation officer	400 sft
7. Social adjustment employment and job placement officer	500 sft
8. Official staff (4 persons)	800 sft
9. Clerks (10 persons)	1000 sft
10. Store	500sft
11. Conference room (40 persons)	1000sft
Total	6400 sft

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5.2.2 Educational facilities and resource:

1. Lobby and waiting	500 sft
2. Toilets (male 4, female 2)	180 sft
3. 6 class rooms	5000 sft
4. 4 official staffs rooms	1000 sft
5. 5 trainers common room	1000 sft
6. 6 head trainers' room	1200 sft
7. 7 equipments and store room	1000 sft
8. 8 toilets	160 sft
Total	10040 sft

5.3 Work shop, vocational training and display centre

5.3.1. Sheltered work shop

• Metal work	2000 sft
• Wood work	2000 sft
• Electronics and computer training	1500 sft
• Bamboo & cane work	1000 sft
• Tailoring & garments work	1000 sft
• Official activity	500 sft
• Plastic work	1000 sft
• Photograph development	300 sft
• Ceramic & paper packaging	600 sft

5.3.2. Outdoor work: 3000 sft

5.3.3. Exhibition and sales area 1150 sft

5.4 Therapy units:*5.4.1 Physiotherapy:*

• Exercise area	2000 sft
• Treatment cubicles	1000 sft
• Office room	500 sft
• Storage	500 sft
• Examination room	300 sft
• Toilets	100 sft
Total	4300 sft

5.4.2. Occupational therapy

• Therapy room	800 sft
• Office and store	300 sft
Total	1100 sft

5.4.3. Hydrotherapy

• Treatment cubicles	300 sft
• Changing room	350 sft
• Therapist room	300 sft
• Office and storage	200 sft
• Toilets	140 sft
• Hydrotherapy pool	2000 sft
Total	3290 sft

5.4.4. *Speech and hearing therapy*

• Waiting area	1000 sft
• Office and storage	800 sft
• Consultancy cubicles	1000 sft
• Test room	800 sft
• Control room	100 sft
• Record room	150 sft
• Nurse station	500 sft
• Staff locker	100 sft
• Storage	500 sft
• Teaching of ADL	500 sft

Total	5450 sft
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4.4.5 *Mental health therapy :*

• Waiting	800 sft
• Therapist's examination, locker and toilet	300 sft
• Isolation room (child) and toilet	150 sft
• Isolation room (adult) and toilet	200 sft
• Social space for recreational therapy	600 sft
• Group therapy	1000 sft
• Lockers	50 sft
• Kitchenette	100 sft
• Psychiatrist's consultancy	200 sft
• Treatment cubicle	200 sft
• Staff/care taker room and toilet, locker	150 sft
• Open space for therapeutic exercise	2000 sft

Total	5750 sft
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5.4.6 Horticulture therapy :

The Horticulture Therapy Unit is not limited to a certain space in this center.

Open spaces inside the site boundary are all design-specific for the accessibility of the differently abled and also contain design specific areas to help gardening or horticultural activities for the differently abled.

5.5 Library and resources

• Library; (including Braille collections)	4000 sft
• Librarian's room	120 sft
• Reception	100 sft
• Toilets	85 sft
• Store	100 sft
Total	4405 sft

5.6 Multipurpose hall

• Lobby	500 sft
• Main hall	16000 sft
• Toilet & male	440 sft
• Store	500 sft
Total	17440 sft

5.7 Cafeteria

• Lobby	200 sft
• Indoor served space	2500 sft
• Toilets & male	220 sft
• Kitchen	1000 sft

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• Pantry	300 sft	
• Store	500 sft	
Total	4720 sft	
5.8 Rest house and quarter		
• Visiting guest / trainer resting facility	1000 sft	
• Toilets	150 sft	
Total	1150 sft	
5.9 Dormitory :		
• 70 male 30 female	40000sft	
5.10 Parking facility		
• Parking for 30 cars	30x128 = 3840 sft	
• Guard room	120 sft	
Grand total	114455 sft	

CHAPTER 06: Conceptual stage and design development

6.1. Concept and desing consideration

6.1.1 Derivation of plan and section

6.1.2 Ergonomics

6.1.3 Morphology of Puran(old) Dhaka

6.1.4 Historical background of Puran(old) Dhaka

6.2. Site and surroundings analysis

6.3. Implementation of the findings and analysis in design

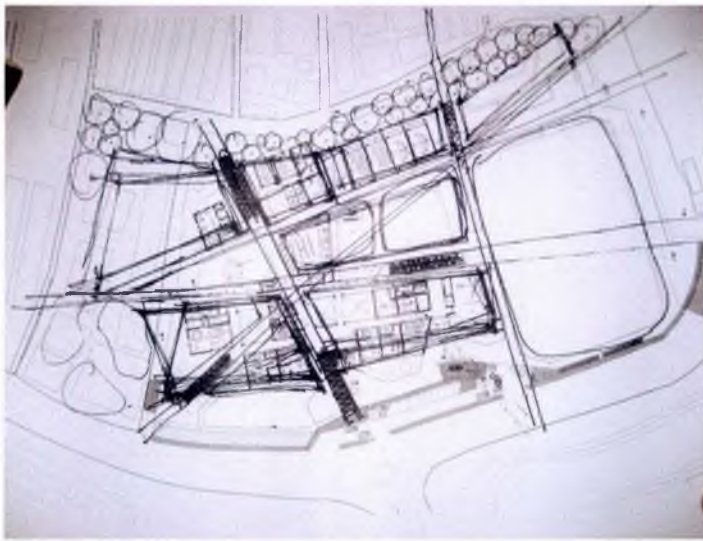
6.1. Concept and desing consideration

Ability not disability

Differently abled people in countries like Bangladesh are often disregarded or not given enough opportunities to lead a healthy life. Therefore I decided to give them a better way of life by designing a proper rehabilitation centre where they will get all sorts of facilities and not feel isolated or left behind. This is a centre for physically handicapped, hearing and visually impaired. I have tried to designed a place so that this people can lead their life independently. This association has training. Educationa, medical facilities, as well as extra curricular activities. Moreover accommodation for differently abled people who needs assistance for a longer period of time. it's a design sensitive to light. Ventilation and texture as visually impaired people need to feel the path they travel by counting their footsteps. I have also considered rain water harvesting, roof gardening and the morphology of puran Dhaka along with Modular design and high accessibility by all.

Derivation of plan

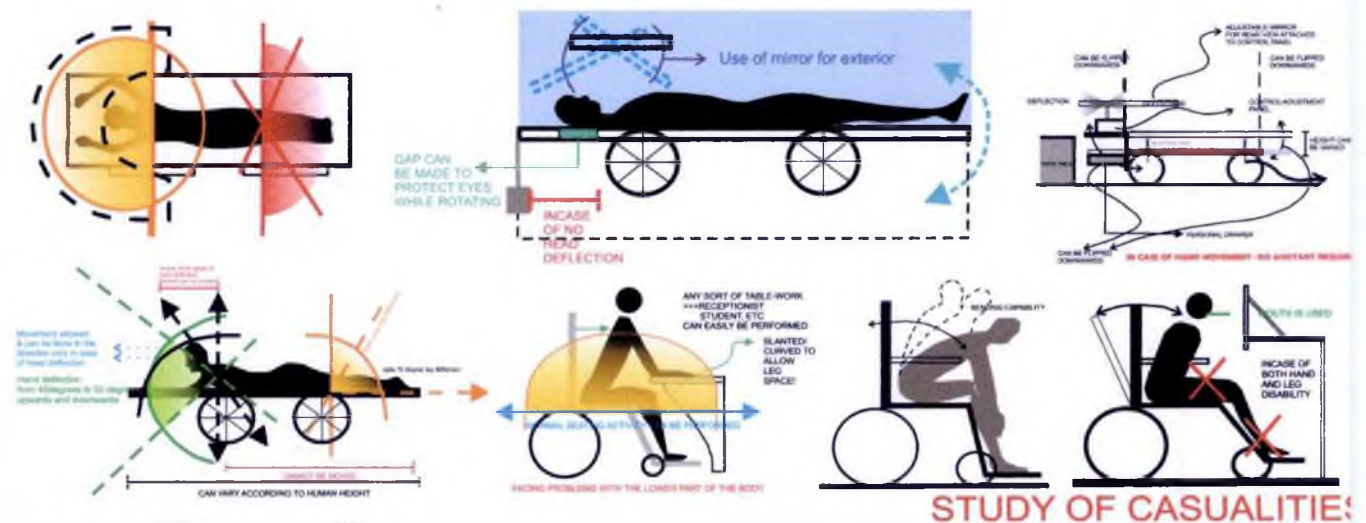
The plan was derived as in the form developed initially by joining the major roads across the site. Eventually which developed and became circulation. As it is one of the most crucial part for a rehabilitation centre designed for differently abled.



Conceptual section



6.1.2 Ergonomics

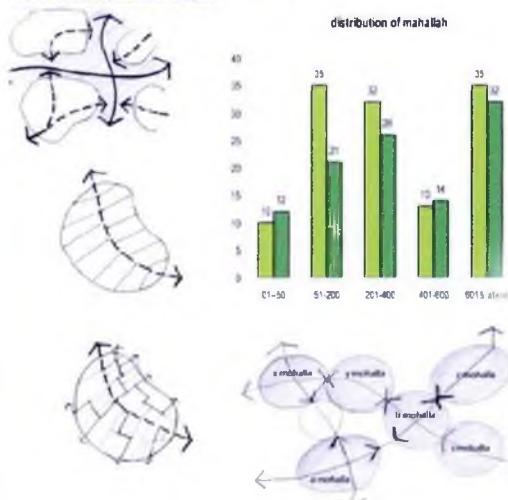


After conducting visit to all the known differently abled centre in Bangladesh. Through interview and analysis I tried to gather all the necessary information regarding their most comfortable position and space required for their movement.

6.1.3 Morphology of Pura Dhaka

Evolution of Mohallah

Mohallah today appears wrapped by this form but are essentially same. In original morphology they are also one properly deep, only in later period they acquired winding gate.



To create a similarity between the redevelopment zone and old dhaka, inorganic road pattern can be carefully followed.



Various options of space allocation for diff. Levels can be created by following manners:

User's level	Per unit space (sq. ft.)		
	Option 1	Option 2	Option 3
Middle	500	550	650
Lower middle	700	800	850
Lower	900	1000	1100

6.1.4 Historical background of Puran(old) Dhaka

Khan Mohammad mridha mosque



SITE SITUATED IN PURAN DHAKA: KILLAR MOR, LALBAGH



<<<UNDERSTANDING PURAN DHAKA



Lal bagh kella



Begum bazar



CONSIDERATIONS>>>>

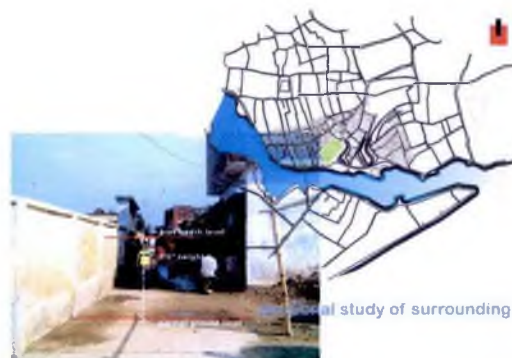


CO-ORDINATE SYSTEM (EPSG:31471)
 UTM ZONE 48Q, DATUM: ADAR 1960, UNIT: METRE
 PROJECTION: UTM
 AXIS: EASTING, NORTHING
 ORIGIN: 500000, 0

GENERATION OF DHAKA CITY

6.2. Site and surroundings analysis



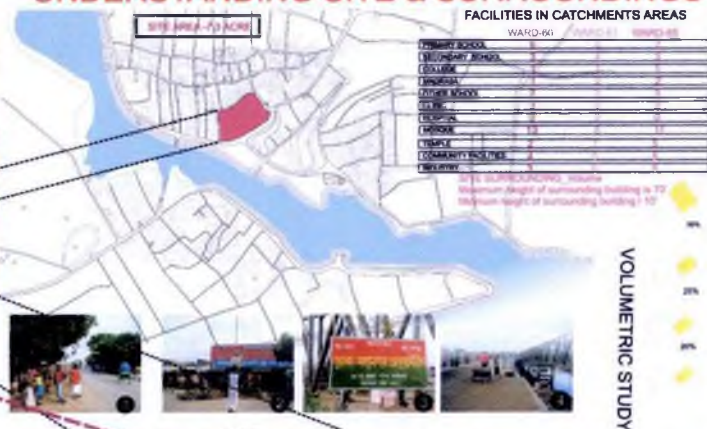


GENERATION OF DHAKA CITY

SITE LOCATION & ANALYSIS>>>>



UNDERSTANDING SITE & SURROUNDINGS



WATG-DK1	WATG-DK2	WATG-DK3
Primary School		
Secondary School		
College		
University		
Other School		
Self		
Business		
Home		
Temple		
Community Center		
Other		

SP-1 SURFACE-POW-1: House
Maximum height of surrounding building is 7
Minimum height of surrounding building is 10

... ..

VOLUMETRIC STUDY



WARD-59
POPULATION-75,000 (approx)
Student-11
percentage-0.06%

WARD-39
POPULATION-75,000

Student-11

percentage-0.06%

WARD -61
population-55,000(appr.)
Disabled 150

population-56,000(appr.)
Disabled 150

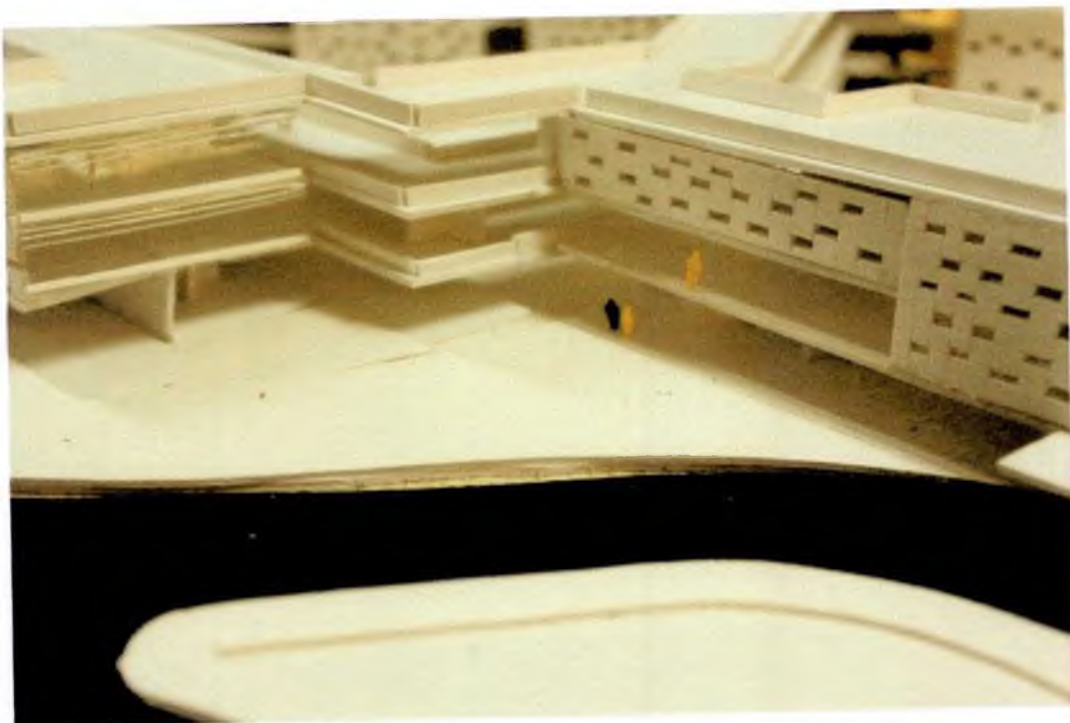
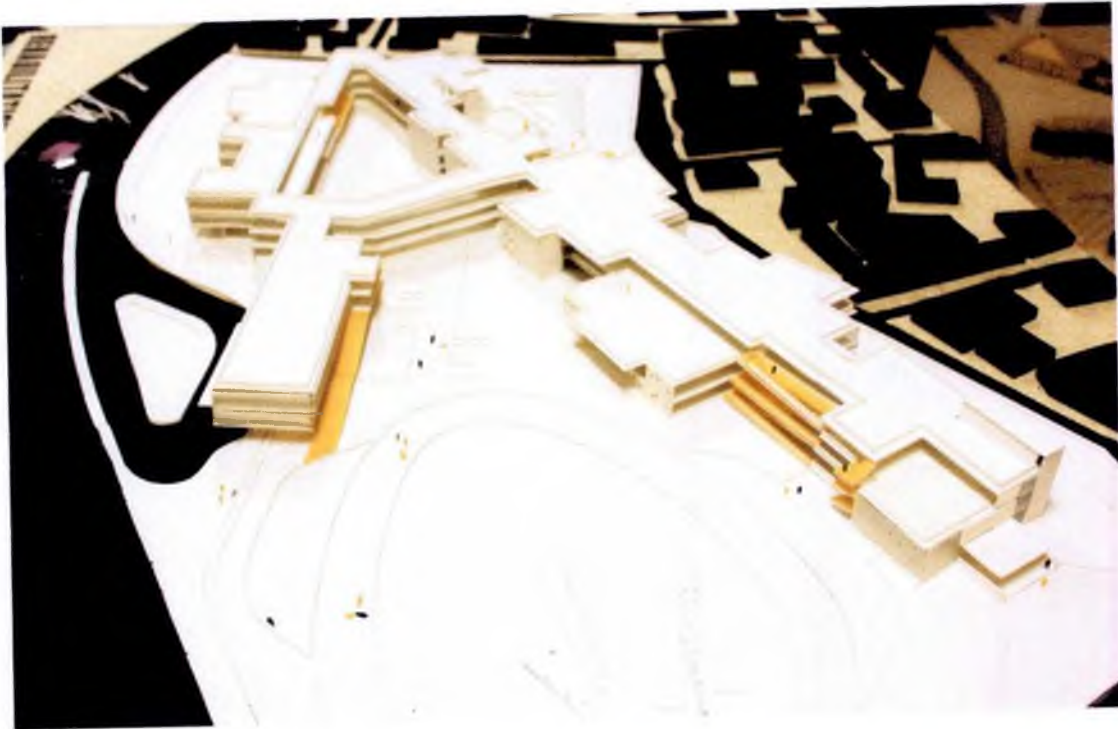
Disabled 150
Student-39

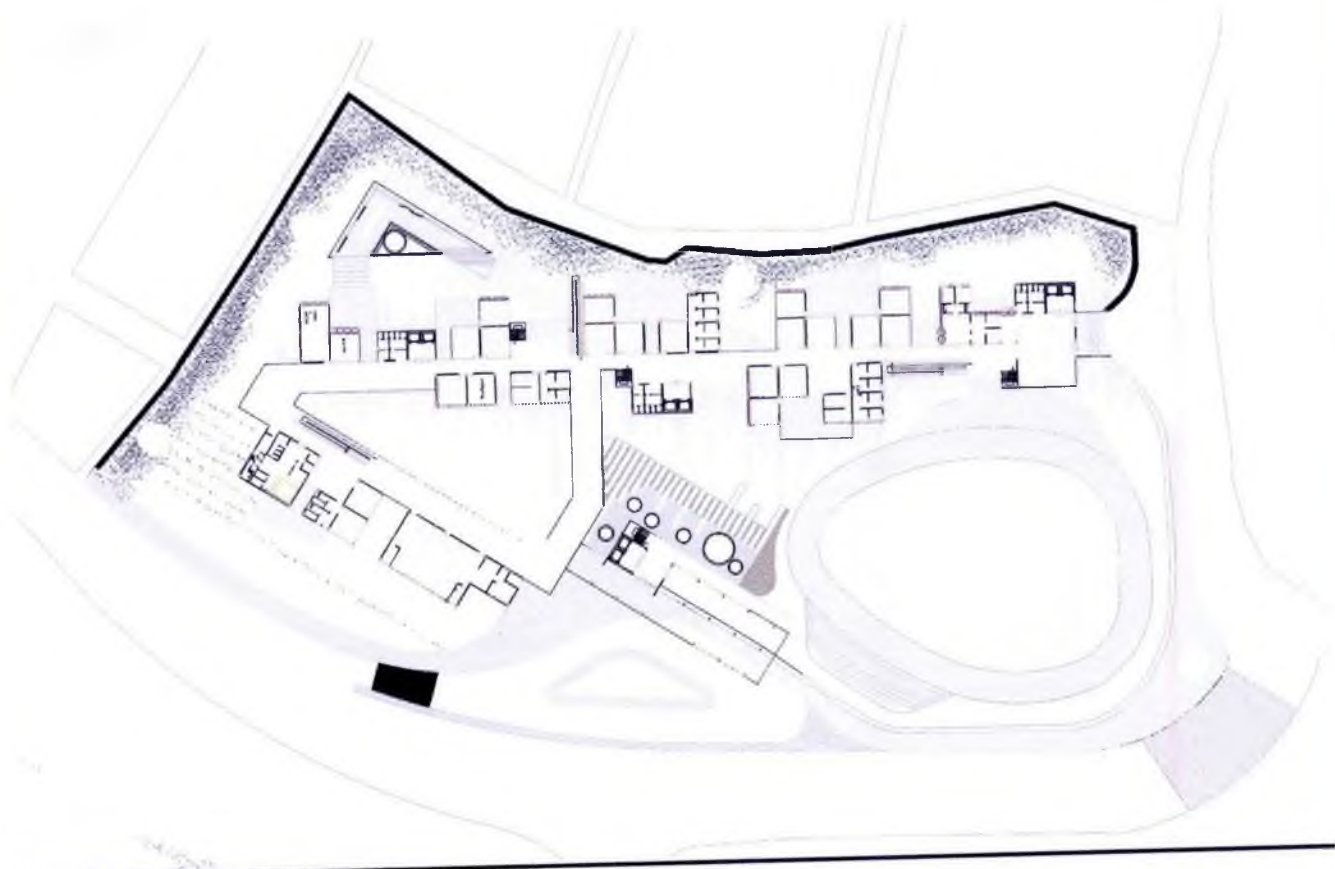
percentage 0.27%



TOUR AROUND THE SITE

6.3. Implementation of the findings and analysis in design





Master plan